

Northern Everglades Initiative Update

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September 14, 2007



Lake Okeechobee Phase II Technical Plan Requirements

- **Identify facilities to achieve TMDL**
 - **Size**
 - **Location**
 - **Schedule**
 - **Budget**
 - **Costs**
- **Provide additional measures to increase water storage and reduce excess water levels in lake and discharges to tide**
 - **Identify storage goal to achieve desired lake levels and inflow volumes to estuaries while meeting other water related needs**

Lake Okeechobee Phase II Technical Plan

Objectives

- **Meet Lake Okeechobee Watershed Total Maximum Daily Loads**
- **Manage Lake Okeechobee levels within an ecologically desirable range**
- **Manage flows to meet desirable salinity ranges for the St. Lucie and Caloosahatchee Estuaries**
- **Identify opportunities for alternative surface water supply sources in the watershed**

Phase II Technical Plan Lake Okeechobee Watershed

Constraints

- **Provide Kissimmee River restoration flows**
- **Avoid precluding Everglades restoration flows**
- **Maintain water supply for affected water user basins**
- **Herbert Hoover Dike limitations**
- **Maintain existing levels of flood protection**
- **Minimum flows and levels- Lake Okeechobee, St. Lucie Estuary, Caloosahatchee Estuary, Lake Istokpoga**

Progress to Date

- **Assembled SFWMD and cooperating agency team**
- **Management measures for consideration identified**
- **Phosphorus reduction analysis for base cases and alternatives ongoing**
- **Regional Simulation Model for water budget analysis operational**
- **Base Cases and Alternative 1 complete**

Phase II Technical Plan Lake Okeechobee Watershed

Compiled and sorted management measures by levels

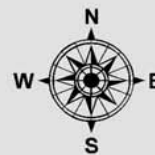
- **Levels of management measures**
 - **Level 1- Already constructed/implemented or construction/implementation imminent**
 - **Level 2- Construction/implementation likely; Detailed design/activity development ongoing; Location well defined**
 - **Level 3- Implementation certainty unknown; Conceptual level of design/activity development complete; Location defined**
 - **Level 4- Implementation certainty unknown- Conceptual idea; May have rough order of magnitude cost and/or general basin location**
 - **Level 5- Implementation certainty unknown-Conceptual idea with limited information**

Water Quantity and Quality Analyses

- **Water Quantity**
 - **Water Budget analysis using Regional Simulation Model**
- **Water Quality**
 - **Spreadsheet evaluation of phosphorus reduction**
 - **Builds upon 2007 Lake Okeechobee Protection Plan Update**

Water Quantity Analysis

- **Water Budget analysis using Regional Simulation Model**
- **Period of record: 1970 - 2005**
- **Area north of Lake Okeechobee subdivided into 5 sub-watersheds**
 - **Upper Kissimmee**
 - **Lower Kissimmee**
 - **Lake Istokpoga**
 - **Fisheating Creek**
 - **Taylor Creek/Nubbin Slough**
- **Management measures with affect on water budget such as reservoirs or STAs are generally simulated as one facility per sub-watershed**

[illegible]

0 5 10 20 Miles

**Northern Everglades Ecosystem
Phase II Lake Okeechobee
Watershed Construction Project**

-  Roads
-  SFWMD Northern Border
- Lake Okeechobee Watersheds**
 -  Caloosahatchee River
 -  EAA Basins
 -  East Lake O. Basins
 -  Fisheating Creek
 -  Lake Istokpoga
 -  Lower Kissimmee
 -  St. Lucie Estuary
 -  Taylor Creek/Nubbin Slough
 -  Upper Kissimmee
 -  West Lake O. Basins
-  SFWMD Major Canals
-  County Boundary
-  LOPP Hydrologic Boundary
-  Basins
-  Regional Simulation Model - Sub Watersheds

This map is a conceptual tool utilized for project development only. This map is not self-executing or binding, and does not otherwise affect the interests of any persons including any vested rights or existing uses of real property and is not a survey.

UPDATED
11 SEP 2007



Examples of Performance Measures for Water Quantity analysis

- **Lake Okeechobee**
 - **Extreme Low and High Lake**
 - **Lake Stage Envelope**
 - **Lake Minimum Water Levels**
- **Estuaries**
 - **High/Low Discharge Criteria**
 - **Salinity Envelop Criteria**
- **Kissimmee River**
 - **Comparison with Pre-Channelization Seasonal Flow Distribution**
- **Water Supply**
 - **EAA and LOSA water supply cutbacks**

Water Quality Analysis

- **Spreadsheet analysis process**
 - **Period of record: 1991- 2005**
 - **Phosphorus reduction for each management measure estimated based upon best available information**
 - **Phosphorus reductions applied on a sub-watershed basis (9 sub-watersheds)**
 - **Shows incremental progress toward meeting Lake Okeechobee Total Maximum Daily Load**

FOR DISCUSSION PURPOSES ONLY

This map illustrates the Northern Everglades Ecosystem Phase II Lake Okeechobee Watershed Construction Project. It shows the boundaries of various watersheds and basins, major canals, and roads. The map includes a legend, a north arrow, and a scale bar.

**Northern Everglades Ecosystem
Phase II Lake Okeechobee
Watershed Construction Project**

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- Lake Okeechobee Watersheds
 - Caloosahatchee River
 - EAA Basins
 - East Lake O. Basins
 - Fisheating Creek
 - Lake Istokpoga
 - Lower Kissimmee
 - St. Lucie Estuary
 - Taylor Creek/Nubbin Slough
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 - West Lake O. Basins
- SFWM Major Canals
- County Boundary
- LOPP Hydrologic Boundary
- Basins
- Regional Simulation Model - Sub Watersheds

The map shows the following areas:

- Upper Kissimmee
- Lower Kissimmee
- Taylor Creek \ Nubbin Slough
- Lake Istokpoga
- Fisheating Creek
- Highlands
- Glades
- West Lake O. Basins
- East Lake O. Basins
- EAA Basins

The map also shows the following features:

- Atlantic Ocean
- Indian River
- St. Lucie
- Martin
- Palm Beach
- Hillboro Canal
- Lee
- Collier
- De Soto
- Charlotte
- Hardee
- Polk
- Hillsborough
- Orange
- Brevard
- Osceola
- Lake

The map includes a legend, a north arrow, and a scale bar (0 to 20 miles).

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FDACS

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Phase II Lake Okeechobee
Watershed Construction Project**

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Alternative 1 Summary

- **Alternative 1 includes-**
 - **Level 1, 2, and 3 Management Measures**
 - **CERP Lake Okeechobee Watershed Project Tentatively Selected Plan features**
 - **Kissimmee Reservoir**
 - **Istokpoga Reservoir**
 - **Istokpoga STA**

Technical Plan for Phase II of the Lake Okeechobee Watershed Construction Project

Schedule

- **Formulation and draft report development** **September 2007**
- **Draft Plan for public review** **October 2007**
- **Final Plan to Governing Board** **January 2008**
- **Submit Plan to Legislature** **February 1 2008**

Rivers Watershed Protection Plan Process

- **Project managers for District assigned**
- **Identifying the District team and developing work plan**
- **Expanding Interagency Group to help coordinate planning**
- **Formally kick-off in October**

An aerial photograph of a rural landscape. The foreground is dominated by a patchwork of vibrant green agricultural fields, separated by thin white lines representing roads or fences. In the middle ground, a small cluster of buildings, possibly a farm or a small village, is visible. To the right, a small, rectangular blue pond is situated. In the background, a large body of water, likely a lake or a wide river, stretches across the horizon. Above the water, a massive, billowing white cloud formation rises into a deep blue sky, casting a soft shadow over the water and the land below. The overall scene is peaceful and scenic.

Questions